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WP 1.17.02

NEWSLETTER



The international Conference on Restoration of Boreal and Temperate Forests was held in Vejle, Denmark see more on page

The Working Party on Temperate and Boreal Forest Restoration facilitates and coordinates research aimed at integrating ecological and silvicultural knowledge to develop new techniques and management approaches for restoring the sustainability of degraded forest landscapes, thereby increasing their environmental, social and economic value.

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Welcome back to the Working Party Newsletter. It has been a long time since the last one. It is my New Year's resolution to do better and produce a newsletter frequently, but I need your help. Please send items of interest to the group, especially notice of your new publications (be sure to provide a full citation). Since the last newsletter, I moved to a new position, but still with the U.S. Forest Service. I now reside in Athens, Georgia and am Project Leader of a group looking at disturbance and the management of Southern ecosystems. A consuming focus (pardon the pun) since moving has been fire effects on southern forests. You can learn more about my new interests at the project's website, <http://www.srs.fs.fed.us/disturbance>

The Working Party (WP) held a very successful conference last May in Denmark (more details below). A heartfelt *Thank You* to the many people who made it happen. You are too numerous to list! I am looking forward to the next WP meeting, probably at the IUFRO

World Congress in August 2005, in Brisbane, Australia. The WP will try to have a session there but I don't know yet how the organizing committee will decide on what sessions to hold. Personally, I would like to hold a session focused on restoring fire to natural forests, which should be a relevant topic for our Australian hosts.

Please pass this newsletter on to others who are interested in forest restoration. If you have received this second-hand, contact me by E-mail if you would like to be added to the distribution list. I prefer that you send me your full particulars (name, title, organization, address, telephone, fax, E-mail, website URL). Remember, participation in the WP is open to all interested parties. To be an officer, however, your employer needs to be a member of IUFRO (International Union of Forestry Research Organizations). To learn more about IUFRO, check out the website at <http://www.iufro.boku.ac>.



International Conference on Restoration of Boreal and Temperate Forests—Documenting Forest Restoration Knowledge and Practices in Boreal and Temperate Ecosystems

Vejle, Denmark, 29 April – 3 May, 2002

Working Parties 1.17.02 and 1.05.08 of IUFRO, the U.S. Forest Service (Southern Research Station), the Danish Forest and Landscape Research Institute, and the Southern Swedish Forest Research Center organized an international meeting on restoration of boreal and temperate forests. Four continents and 19 countries were represented among the 112 participants. The meeting was divided into 2.5 days of oral and poster presentations, with a 1-day in-conference field trip to view forestry and restoration practices in Denmark (Haderslev State Forest District, Jutland) and Germany (Schleswig State Forest District, Schleswig-Holstein). Forty-four participants continued on a post-conference tour to view restoration in southern Sweden (Biskopstorp, Skåne).

The objective of the conference was to document forest restoration knowledge and practice in boreal and temperate ecosystems. Researchers and managers came together to identify general approaches,

appreciate regional differences, and to explore common challenges for restoring forest ecosystems. Viewing forest restoration broadly, presentations in three plenary, eight concurrent, and two poster sessions documented and compared restoration at local and regional scales. Sessions focused on (1) Concept of forest restoration, (2) Practice of forest restoration (including afforestation, reclamation, vegetation conversions, natural and artificial regeneration techniques), (3) Restoration material, (4) Effects at stand and landscape levels of restoration on biodiversity, wildlife, aquatic systems, and on land-use, (5) Understanding processes and changes in process levels during forest restoration, and (6) Economic and political impacts of forest restoration, including landowner participation, impacts on communities, and the role of government in restoration programs.

Photos from the conference and field tours are available at the Chair's IUFRO website. <http://www.srs.fs.fed.us/iufro/2002>

Oxford, Mississippi Conference

The Working Party sponsored a one-day meeting on “Restoration of Bottomland Hardwoods” on 24 May 2000. This was a special session within the context of a larger meeting on “Sustainability of Wetlands and Water Resources” at the University of Mississippi in Oxford, Mississippi, USA. Eleven papers were presented in the special session and eleven related papers were given in other sessions or as posters, out of 100 papers at the conference.

A synthesis chapter will appear in a volume forthcoming from Island Press. Brief summaries of the presentations in the special session follow.

Forest restoration, particularly afforestation of land cleared for agriculture, is occurring around the world. Three speakers provided a global context to the extensive efforts in the Lower Mississippi Alluvial Valley (LMAV). John Stanturf (US Forest Service) introduced the special session by identifying similar restoration efforts around the world and posited a central role for plantation forestry in restoration (*Forest restoration in a global context*).

Peter Burbridge (University of Newcastle, United Kingdom) described the process in tropical countries of converting mangrove and other coastal wetlands to shrimp ponds; abandonment of ponds; and sometimes natural regeneration. The development of alternative, sustainable uses of former wetland forests, including restoration of ecological functioning, was examined as a means of reducing pressure on natural wetland forests (***Rehabilitation of coastal wetland forests degraded through their conversion to shrimp farms***).

Palle Madsen (Danish Forests and Landscape Research Institute) reported on afforestation in the Nordic countries and current research on direct seeding as a less expensive alternative to planting seedlings. This regeneration method was examined for a number of broadleaved species within a collaborative project including researchers from Denmark, Norway, Sweden, Finland, Iceland, Estonia, and Mississippi (USA). (***Afforestation and forest restoration in the Nordic countries***.)

Emile Gardiner (US Forest Service) presented an overview of operational afforestation methods in the Lower Mississippi Alluvial Valley and reviewed silvicultural techniques being developed to enhance

ecological benefits of afforestation, improve afforestation economics, and enhance establishment success on adverse sites while addressing multiple objectives of landowners (***Bottomland hardwood afforestation: State of the art***).

William Conner (Clemson University, South Carolina) described the particular challenges of restoring deepwater swamps and summarized recent developments in growing and planting seedlings morphologically adapted to planting in standing water. He concluded that seedlings on most flooded sites can be successfully established by proper diagnosis of site conditions, appropriate selection of species and stock type, and use of tree shelters. (***Restoration methods for deepwater swamps***.)

Stephen Schoenholtz (Mississippi State University) discussed the function of hydrologic and edaphic processes in hardwood bottomland ecosystems, the effects of afforestation on hydrology and soils, and the need to consider that restoration of these ecosystems involves more than simply reestablishing tree seedlings. (***Role of hydrologic and edaphic functions in hardwood bottomland restoration***.)

Graeme Lockaby (Auburn University, Alabama) reviewed the

ecological functions classically associated with riverine forest wetlands such as bottomland hardwoods and the linkage to “flow through” hydrology. He questioned whether current methods of hydrology restoration in afforestation programs can restore flow through hydrology, and concluded that the term “quasi-depressional” was more descriptive of actual results. (***Potential effects of restoration on biogeochemical functions of bottomland hardwood ecosystems***.)

Paul Hamel (US Forest Service) examined the effects of forest restoration on wildlife populations, in particular the assumption that rapid accumulation of vertical structure is beneficial to wildlife. Communities of very early successional stages include animals absent from the former agricultural landscape, or in abundances unequalled elsewhere. Extensive restoration of forests may have measurable consequences to winter breeding bird populations. (***Forest restoration as ecological succession: Should we speed it up or slow it down?***)

Mel Warren (US Forest Service) examined the effects of forest restoration on fish communities, particularly the relationship of woody debris, canopy shading, and bank stability to fish species richness and total abundance.

Woody debris increased diversity in bottomland hardwood streams of the Upper Coastal Plain of northern Mississippi, although the amounts of woody debris are considerably lower than found in other regions of North America. ***(Fish communities and reforestation of lowland stream systems: Will reforestation affect diversity of abundance?)***

Sammy King (US Geological Survey) reported on a survey of restoration activities in the LMAV since the late 1980s. From 1988 to 1998, agencies represented in the survey were responsible for afforestation of 77,698 ha and planned on an additional 89,009 ha by 2003. Oaks (*Quercus* spp.) are the most commonly planted species (78%) and bare-root seedlings the most planted stock type. The widespread interest in afforestation has created problems with seedling availability. ***(A survey and evaluation of reforestation of the Lower Mississippi River Alluvial Valley).***

Barbara Kleiss (US Geological Survey) presented an overview of a decision support system, the Eco-Assessor, developed for the lower Yazoo River Basin (part of the LMAV). This GIS-based system is designed to assist planners and managers in determining the best locations of afforestation based on ecological and geographic criteria and probability of success. ***(Development of a decision support system for the prioritization of forested wetland restoration in the lower Yazoo River Basin, Mississippi).***

Vienna conference on Forest Ecosystem Restoration

The WP co-sponsored the IUFRO Conference on Forest Ecosystem Restoration: Ecological and Economic Impacts of Restoration Processes in Secondary Coniferous Forests, held 10-12 April, 2000 at the Agricultural University, Vienna, Austria (Osterreiches Gesellschaft fur Waldokosystemforschung und experimentelle Baumforschung an der Universitat fur Bodenkultur Wien.) A proceedings is available (H. Hasenauer, editor. 2000. Forest Ecosystem Restoration : Ecological and Economical Impacts of Restoration Processes in Secondary Coniferous Forests; Proceedings of the International Conference held in Vienna, Austria; 10-12 April 2000. Institute of Forest Growth Research, University of Agricultural Sciences, Wien, Austria. A special issue of Forest Ecology and Management was devoted to selected papers (2002, Vol. 159 No. 1-2, pages 1-132).

New IUFRO WP 04.04.09 Scenarios for Transformation Forest Management

A new IUFRO research group was formed in June 2002, WP 04.04.09 entitled "Scenarios for Transformation Forest Management." The group's main task will be to investigate silvicultural transformation scenarios, initially concentrating on temperate forests. The exact definition of transformation depends on national and sometimes even regional forest policies but usually means changing stand structure. In the UK, for example, a common transformation scenario is the conversion of even-aged Sitka spruce stands to two-storied pure Sitka spruce stands, or Sitka spruce mixed with other conifers or broadleaves. Transformation deals with what is called 'continuous cover forestry' (CCF) in Britain and close-to-nature forestry or near-natural forest management in other parts of Europe. Work will focus on modeling, simulation, and other biometric methods, but there is scope to incorporate other research fields and methods. Close cooperation is planned with IUFRO 1.14.00 'Uneven-Aged silviculture' and 1.17.02 'Temperate and Boreal Forest Restoration.' The WP has a newsletter; to be on the mailing list or for further information, contact Arne Pommerening, University of Wales, arne.pommerening@bangor.ac.uk.

Special Issue of Natural Areas Journal

The Natural Areas Journal is planning a restoration-oriented issue that will focus on restoration projects using native plants. They are particularly interested in results from field projects, as opposed to research projects. Emphasis is on native plant materials development, seed collection and production, technology transfer for cultivation and restoration, and education and outreach of project results. If you are interested in submitting a paper, you should send an abstract it to the new editor by 1 March 2003 to: Dr. Gerry Wright, Dept. Fish and Wildlife Resources, University of Idaho, P.O. Box 441136, Moscow, ID 83844-1136 USA; gwright@uidaho.edu

Stand Conversion Meeting

The Faculty of Forest and Environmental Sciences, Forest Research Institute of Baden Württemberg, Germany is organizing a meeting on conversion of Norway spruce forests, with several IUFRO research groups co-sponsoring (1.14.00, Uneven-age Silviculture, 1.14.02, Restoration of Temperate and Boreal Forests, and 4.04.09, Scenarios for Transformation Forest Management). The meeting on “The Question Of Conversion of Coniferous Forests” will be held in Freiburg, Germany from 28 September to 2 October 2003. The meeting developed from the work of the RPC CONFOREST, led by Heinrich Spiecker. RPC CONFOREST stands for the Regional Project Centre under the umbrella of European Forest Institute EFI, which deals with the question of CONversion of pure secondary Norway spruce FORESTs on sites naturally dominated by broadleaves for sustainable fulfillment of society’s needs. You will receive information on the conference directly from the organizers. For further information, check out their website at <http://www.forst.uni-freiburg.de/Waldwachstum/>

Transformation Meeting

The WP is co-sponsoring a meeting on transforming forest stands, to be held in conjunction with the annual conference of the European Forest Institute (EFI). The meeting will take place on 3-7 September 2004 in Bangor, Wales (UK). The scientific program of the conference will be organized by the IUFRO working party 4.04.09, Scenarios for Transformation Forest Management. Conference organizers envision that special (but not exclusive) attention will be paid to Sitka spruce, as this is the main coniferous species of Great Britain, and to the specific issue of transformation of pure, even-age conifer stands to other species or structures in the face of high precipitation and high wind speeds. The scientific committee of this meeting involves IUFRO members of Divisions 1 and 4 and the meeting will be co-sponsored by IUFRO WP 1.17.02, Restoration of Temperate and Boreal Forests.

Next WP Meeting

Is anyone ready to hold another Working Party meeting? It is not too early to begin thinking about our next gathering, as it is advisable to allow 2 years of planning before the event. Your Chair and Deputy Chair think that sometime in 2006 is a good target for the next meeting, which we feel should be more narrowly focused than the 2002 meeting. Some topics that were suggested in casual conversation include:

- Restoration and carbon-sequestration
- Evaluating restoration success
- Reference sites/natural forests
- Socioeconomic effects and policy implications
- Restoration – conflict or cooperation with landowners and industry?

If you are interested in hosting the meeting or serving on a Planning Committee, please contact Palle or me, preferably by E-mail.

WP Co-Sponsorship of Regional Conferences

If you are organizing a regional conference on a topic relevant to the WP and would like to have IUFRO as a co-sponsor, contact me or Palle. We cannot offer any financial assistance but we can help you publicize your meeting.

Vejle Conference Proceedings

A conference proceedings of short papers was available at the meeting:

Gardiner, E. S. and L. J. Breland.
2002. Proceedings of the IUFRO Conference on Restoration of Boreal and Temperate Forests – Documenting Forest Restoration Knowledge and Practices in Boreal and Temperate Ecosystems. Danish Centre for Forest, Landscape and Planning Report No. 11, 238 pp.

Copies may be purchased from DSR Boghandel, Thorvaldsenvej 40, DK-1871 Frederiksberg C, DENMARK, at a price of DKK 400; E-mail dsr-boghandel@dsr-boghandel.dk.

The proceedings papers can be downloaded from the Chair's IUFRO website, <http://www.srs.fs.fed.us/iufro>

Special Issue of Forestry

A special issue of the journal *Forestry* (Oxford University Press), with selected volunteer oral and poster papers, will be published in the Spring of 2003 and distributed to attendees of the conference. The following is from the introduction by guest co-editors Emile Gardiner, Magnus Löf, and Katrine Hahn:

The 14 manuscripts presented in this issue encompass a broad view of forest restoration. Included in the issue are original reports on recent scientific achievements, synthesis papers based on previous comprehensive work on specific restoration topics, and case studies of relevance to forest restoration practitioners. Eight of the manuscripts focus on forest restoration questions in conifer ecosystems, 5 manuscripts focus on forest restoration questions in broadleaf forest ecosystems, and 1 paper addresses conversion of conifer dominated forest types to broadleaf forest ecosystems. Scientific approaches designed to define restoration reference states are described by authors working in the Swedish Boreal Region and the Rocky Mountain Region of the western United States. Incorporation of active management to restore and maintain forest biodiversity is addressed for ecosystems of the

Pacific Northwest Region and the Lower Mississippi Alluvial Valley of the United States. Stand processes that influence choice of forest restoration activities and success are examined in the Ore Mountains of Germany and the Rocky Mountains. Authors working in the Mediterranean Region, the Baltic Region, and the Lower Mississippi Alluvial Valley provide investigations on seedling quality, species selections and other afforestation practices. Political, sociological and economic aspects of forest restoration decisions and practices are addressed within the context of conifer ecosystems of the Southeastern United States.

As this collection shows, forest restoration is a complex task that challenges existing knowledge of forest ecosystems. What to do, how to do it, and who should pay are obvious questions that are surprisingly difficult to answer to the satisfaction of all groups holding a stake in the outcome. Restoration generally implies a return to some more natural, pre-existing state but the attempts to identify reference states illustrate the difficulty of objectively defining the desired condition in credible terms. As the papers on stand processes show, both degradation and restoration occur within the framework of stand

development and successful restoration is a process that may require multiple interventions. Forest ecosystem restoration is in its infancy and the work in the temperate and boreal zones, exemplified by reports in this special issue, raises more questions than it answers. Yet some conclusions can be reached: forest ecosystem restoration is a widespread challenge, complicated by diverse ecological and social conditions, subject to the desires of multiple interest groups, and requiring active intervention with on-going management. It is our hope that this collection of forest restoration knowledge and experience will advance this field and ultimately contribute to scientifically sound practices that ensure forest ecosystem health and sustainability throughout the boreal and temperate zones.

Restoration of Temperate and Boreal Forests book

CRC/Lewis Press will publish a textbook of the invited papers synthesizing available knowledge and presenting national and regional case studies. Our goal is to see the book published by early 2004. Stay tuned for further information.

Publications of Interest

Publications are not available from IUFRO or the WP Chair (unless authored by me). Some publications can be downloaded from the Internet; links are noted.

Allen, J.A., B.D. Keeland, J.A. Stanturf, A.F. Clewell, H.E. Kennedy, Jr. 2001. A guide to bottomland hardwood restoration: U.S. Geological Survey, Biological Resources Division Information and Technology Report USGS/BRD/ITR-2000-0011, U. S. Department of Agriculture, Forest Service, Southern Research Station, General Technical Report SRS-40, 132 p. (download at <http://www.srs.fs.fed.us>)

Ammer, C., R. Mosandl, H.E. Kateb. 2002. Direct seeding of beech (*Fagus sylvatica* L.) in Norway spruce (*Picea abies* [L.] Karst.) stands—effects of canopy density and fine root biomass on seed germination. *Forest Ecology and Management* 159:59-72.

Brockway, D. G., K. W. Outcalt. 2000. Restoring longleaf pine wiregrass ecosystems: Hexazinone application enhances effects of prescribed fire. *Forest Ecology and Management* 137:121-138. (download at <http://www.srs.fs.fed.us>)

Buckner, Ed. 2000. In summary: fire in the evolution of the eastern landscape – a timeline. In: Daniel A. Yaussy, compiler. Proceedings: workshop on fire, people, and the central hardwoods landscape; 2000 March 12-14; Richmond. Newtown Square, PA; Gen. Tech. Rep. NE-274. U. S. Department of Agriculture, Forest Service, Northeastern Research Station: 120.

Camargo, J.L.C., I.D.K. Ferraz, A.M. Imakawa. 2002. Rehabilitation of degraded areas of central Amazonia using direct sowing of forest tree seeds. *Restoration Ecology* 10:636-644.

D'Antonio, C., L.A. Meyerson. 2002. Exotic plant species as problems and solutions in ecological restoration: a synthesis. *Restoration Ecology* 10:703-713.

Devall, M., C. Meier, E. Gardiner, P. Hamel, T. Leininger, N Schiff, J. Stanturf. 2001. Review of restoration in bottomland hardwood forests of the Lower Mississippi Alluvial Valley: Techniques and Functions/Values. *Wetland Journal* 13(1):24-37. (download at <http://www.srs.fs.fed.us>)

Duncan, R.S., C.A. Chapman. 2003. Consequences of plantation harvest during tropical forest restoration in Uganda. *Forest Ecology and Management* 173:235-250.

Gagnon, J.L., E.J. Jokela, W.K. Moser, D.A. Huber. 2003. Dynamics of artificial regeneration in gaps within a longleaf pine flatwoods ecosystem. *Forest Ecology and Management* 172:133-144.

Gardiner, E.S., L.J. Breland, compilers. 2002. Proceedings of the IUFRO Conference on Restoration of Boreal and Temperate Forests—Documenting forest restoration knowledge and practices in boreal and temperate ecosystems. Report No.11. Danish Centre for Forest, Landscape and Planning, Hørsholm, Denmark; 238 pages. (download from <http://www.srs.fs.fed.us/disturbance/>)

Holland, M., M.E. Warren, Jr., J.A. Stanturf, editors. 2002. Proceedings of the Conference on Sustainability of Wetlands and Water Resources, 2000 23-25 May, Oxford, MS. General Technical Report SRS-50. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. (download at <http://www.srs.fs.fed.us>)

Loftus, T.T., S.E. Kraft. 2003. Enrolling conservation buffers in the CRP. *Land Use Policy* 20:73-84.

Lütz, M., O. Bastian. 2002. Implementation of landscape planning and nature conservation in the agricultural landscape—a case study from Saxony. *Agriculture, Ecosystems, and Environment* 92:159-170.

Malanson, G.P., M.A. Armstrong. 1996. Dispersal probability and forest diversity in a fragmented landscape. *Ecological Modelling* 87:91-102.

Outcalt, K. 2001. Condition of longleaf communities in the southeast. In: John S. Kush, comp. *Forests for our future—restoration and management of longleaf pine ecosystems: Silvicultural, ecological, social, political, and economic challenges*. Proceedings of the third Longleaf Alliance Regional Conference; 2000 October 16-18; Alexandria, LA. Longleaf Alliance Report No. 5: 178-180.

Partl, E., V. Szinovatz, F. Reimoser, J. Schweiger-Adler. 2002. Forest restoration and browsing by roe deer. *Forest Ecology and Management* 159: 87-100.

Pietsch, S.A., H. Hasenauer. 2002. Using mechanistic modeling within forest ecosystem restoration. *Forest Ecology and Management* 159: 111-131.

Riedler, C., R. Jandl. 2002. Identification of degraded forest soils by means of a fuzzy-logic based model. *Journal of Plant Nutrition and Soil Science* 165:320-325.

Sparks, J.C., R.E. Masters, D.M. Engle, G.A. Bukenhofer. 2002. Season of burn influences fire behavior and fuel consumption in restored shortleaf pine-grassland communities. *Restoration Ecology* 10:714-722.

Society Ecological Restoration Science and Policy Working Group (SER). 2002. The SER Primer on ecological restoration. <http://www.ser.org>

Stanturf, John A., Emile S. Gardiner. 2000. Restoration of bottomland hardwoods in the lower Mississippi Alluvial Valley. In: *Sustaining forests: the science of forest assessment*, Southern resource assessment. Published electronically at <http://www.srs.fs.fed.us/sustain/conf>.

Stanturf J.A., P. Madsen. 2002. Restoration concepts for temperate and boreal forests of North America and Western Europe. In: *Forest Ecosystems: Ecology, Conservation and Sustainable Management* (eds. Z. Jiang., M. Centritto, S. Liu, D. Chiatante). *Plant Biosystems* 136:143-158. (download at <http://www.srs.fs.fed.us>)

Stanturf, J. A., S.H. Schoenholtz, C.J. Schweitzer, J.P. Shepard. 2001. Indicators of restoration success: myth in bottomland hardwoods. *Restoration Ecology* 9:189-200. (download at <http://www.srs.fs.fed.us>)

Twedt, D.J., R.R. Wilson, J.L. Henne-Kerr, D.A. Grosshuesch. 2002. Avian responses to bottomland hardwood reforestation: the first ten years. *Restoration Ecology* 10:645-655.

Vanhinsbergh, D., S.Gough, R.J. Fuller, E.D.R. Brierley. 2002. Summer and winter bird communities in recently established farm woodlands in lowland England. *Agriculture, Ecosystems and Environment* 92:123-136.

Van Lear, D. H., P. H. Brose, P.D. Keyser. 2000. Using prescribed fire to regenerate oaks. In: Daniel A. Yaussy, compiler. *Proceedings: workshop on fire, people, and the central hardwoods landscape*; 2000 March 12-14; Richmond. Newtown Square, PA; Gen. Tech. Rep. NE-274. U. S. Department of Agriculture, Forest Service, Northeastern Research Station: 97-102.

Van Lear, D.H., D.B. Vandermast, C.T. Rivers, T.T. Baker, C.W. Hedman, D.B. Clinton, T.A. Waldrop. 2002. American chestnut, rhododendron, and the future of Appalachian cove forests. *In* K. Outcalt, P. Outcalt, and R. Tucker, editors. Proceedings, 11th Southern Silvicultural Research Conference, Knoxville, TN. Gen. Tech. Rep. SRS-48. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. pp. 214-220. (download at <http://www.srs.fs.fed.us>)

Wade, Dale. 2001. "Can we restore fire-adapted ecosystems after years of fire exclusion?" Located on the web at <http://www.safnet.org/scienc/cl.htm>

Wade, Dale. 2002. The problems with fire exclusion and fire reintroduction in longleaf pine forests. Longleaf Alliance Newsletter Vol. 6, No. 1, April 2002 [np].

Waldrop, T. A., P.H. Brose, N.T. Welch, H.H. Mohr, E.A. Gray, F.H. Tainter, L.E. Ellis. 2002. High-intensity fires may be unnecessary for stand replacement of Table Mountain pine: An overview of current research. *In* K. Outcalt, P. Outcalt, and R. Tucker, editors. Proceedings, 11th Southern Silvicultural Research Conference, Knoxville, TN. Gen. Tech. Rep. SRS-48. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. pp. 137-142. (download at <http://www.srs.fs.fed.us>)

Upcoming Meetings

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|---------------|---|
| Feb 11-13 | Native plant restoration on public lands in the Pacific Northwest: Rare plants, Invasive species, and ecosystem management. Oregon State University, Corvallis, OR; http://www.appliedeco.org |
| May 11-16 | Fifth International Conference on Science and the Management of Protected Areas (SAMPAA V), University of Victoria, Victoria, British Columbia, Canada. The theme will be Making Ecosystem Management Work: Connecting Managers and Researchers. For more information see http://www.sampaa.org |
| Aug 11-14 | IUFRO Working Group for Seed Physiology and Technology conference to be held at the Georgia Center, Athens, Georgia, USA |
| Aug 17-24 | IUFRO unit 8.08.02 Impact of wind on forests conference, 'Strong Winds and Trees: ecology and management', Zurich, Switzerland |
| 1Sep 28-Oct 2 | The Question of Conversion of Coniferous Forests meeting, Freiburg, Germany; contact for further information: instww@uni-freiburg.de |
| Nov 19-22 | Society for Ecological Restoration 15 th International Conference, Austin, TX, USA; http://www.ser.org |

2004

- Aug Society for Ecological Restoration 16th
International Conference, Victoria,
British Columbia
- Sep 3-7 European Forest Institute (EFI) annual
meeting, Bangor, Wales (UK).
- Sep 13-17 International Conference on Eco-
Engineering, The Use of Vegetation to
Improve Slope Stability, Thessaloniki,
Greece; <http://www.ecoslopes.com>
(English) or [http://](http://lrbb3.pierroton.infra.fr)
lrbb3.pierroton.infra.fr (French)

2005

- Aug 8-13 IUFRO World Congress, Brisbane,
Australia
- Aug or Sep Society for Ecological Restoration 17th
International Conference, Zaragoza,
Spain

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